

CYCOLAC™ MG38N resin

Acrylonitrile Butadiene Styrene

SABIC Innovative Plastics

Message:

Very high impact ABS. Toughness/rigidity. Good fatigue resistance. NSF Standard 61 certified in limited colors (restrictions may apply).

General Information			
UL YellowCard	E121562-220711	E121562-220712	
Features	Fatigue Resistant		
	Good Toughness		
	Medium Rigidity		
	Ultra High Impact Resistance		
Agency Ratings	NSF 61 3		
Processing Method	Injection Molding		
Multi-Point Data	Flexural DMA (ASTM D4065)		
	Pressure-Volume-Temperature (PVT - Zoller Method)		
	Shear DMA (ASTM D4065)		
	Specific Heat vs. Temperature (ASTM D3417)		
	Tensile Fatigue		
	Tensile Stress vs. Strain (ASTM D638)		
	Thermal Conductivity vs. Temperature (ASTM E1530)		
	Viscosity vs. Shear Rate (ASTM D3835)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.05	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR)			
230°C/3.8 kg	3.7	g/10 min	ASTM D1238
220°C/10.0 kg	15	g/10 min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.80	%	Internal Method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹	2280	MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield	45.0	MPa	
Break	34.0	MPa	
Tensile Elongation ³			ASTM D638
Yield	2.1	%	
Break	26	%	
Flexural Modulus ⁴ (50.0 mm Span)	2340	MPa	ASTM D790
Flexural Strength ⁵ (Yield, 50.0 mm Span)	72.0	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	370	J/m	ASTM D256
Instrumented Dart Impact (23°C, Total Energy)	31.9	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.20 mm	95.0	°C	
1.8 MPa, Unannealed, 3.20 mm	80.0	°C	
Vicat Softening Temperature	99.0	°C	ASTM D1525 ⁶
CLTE			ASTM E831
Flow : -40 to 40°C	8.8E-5	cm/cm/°C	
Transverse : -40 to 40°C	8.6E-5	cm/cm/°C	
RTI Elec	60.0	°C	UL 746
RTI Imp	60.0	°C	UL 746
RTI Str	60.0	°C	UL 746
Electrical	Nominal Value		Test Method
Arc Resistance ⁷	PLC 5		ASTM D495
Comparative Tracking Index (CTI)	PLC 0		UL 746
High Amp Arc Ignition (HAI)	PLC 0		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 2		UL 746
Hot-wire Ignition (HWI)	PLC 3		UL 746
Flammability	Nominal Value		Test Method
Flame Rating (1.52 mm)	HB		UL 94
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (240°C, 1000 sec ⁻¹)	245	Pa · s	ASTM D3835
Injection	Nominal Value	Unit	
Drying Temperature	82.2 to 93.3	°C	
Drying Time	2.0 to 4.0	hr	
Drying Time, Maximum	8.0	hr	
Suggested Max Moisture	0.10	%	
Suggested Shot Size	50 to 70	%	
Rear Temperature	188 to 210	°C	
Middle Temperature	204 to 227	°C	
Front Temperature	216 to 238	°C	
Nozzle Temperature	218 to 260	°C	
Processing (Melt) Temp	218 to 260	°C	
Mold Temperature	48.9 to 71.1	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	30 to 60	rpm	
Vent Depth	0.038 to 0.051	mm	
NOTE			
1.	5.0 mm/min		

2.	Type I, 5.0 mm/min
3.	Type I, 5.0 mm/min
4.	1.3 mm/min
5.	1.3 mm/min
6.	Rate B (120°C/h), Loading 2 (50 N)
7.	Tungsten Electrode

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